

THE EMBODIMENTS OF THE INVENTION IN WHICH AN EXCLUSIVE PROPERTY OR PRIVILEGE IS CLAIMED ARE AS FOLLOWS:

1. A crystalline form of azithromycin • (H₂O)_x • [isopropanol]_y, wherein x and y are selected from
 - (i) x = 0.75 and y = 0.5, and
 - (ii) x = 1.5 and y = 0.25.
2. Crystalline Azithromycin Isopropanolate of claim 1 wherein x = 1.5 and y = 0.25.
3. Crystalline Azithromycin Isopropanolate of claim 1 wherein x = .75 and y = 0.5.
4. The crystalline form of Azithromycin • (H₂O)_x • [isopropanol]_y, having the single crystal structure of Figure 1(a) wherein x = 0.75 and y = 0.5.
5. The crystalline form of Azithromycin • (H₂O)_x • [isopropanol]_y, having the single crystal structure of Figure 1(b) wherein x = 1.5 and y = 0.25.
6. A process for the preparation of the azithromycin • (H₂O)_x • [isopropanol]_y, wherein x and y are selected from
 - (i) x = 0.75 and y = 0.5, and
 - (ii) x = 1.5 and y = 0.25

which process comprises the following steps:

- (a) dissolving solid azithromycin in an acetic acid solution and extracting the solution with ethyl acetate;

- (b) basifying the aqueous solution from step (a) with a sodium hydroxide solution;
- (c) extracting the basic solution from step (b) with ethyl acetate;
- (d) drying the ethyl acetate solution from step (c) with sodium sulfate, filtering the drying agent and evaporating the filtrate under vacuo to give non-crystalline azithromycin as a syrup;
- (e) co-evaporating the material from step (d) with isopropanol three times to give a syrup;
- (f) mixing the material from step (e) with isopropanol;
- (g) adding water to the material from step (f);
- (h) filtering the insoluble material from step (g) and drying under vacuo;
- (i) dissolving the material from step (h) in isopropanol and adding water in the ratio of either:
 - (ia) isopropanol to water in the order of $(1 - 2) : 1$ where $x = 1.5$ and $y = 0.25$, or
 - (ib) in the ratio of isopropanol to water in the order of $4 : 1$ where $x = 0.75$ and $y = 0.5$;
- (j) filtering the insoluble material from step (i).

7. A process for the preparation of the azithromycin • $(\text{H}_2\text{O})_x$ • [isopropanol]_y of claim 2 wherein $x = 1.5$ and $y = 0.25$ which comprises the following steps:

- (a) dissolving solid azithromycin in an acetic acid solution and extracting the solution with ethyl acetate;
- (b) basifying the aqueous solution from step (a) with a sodium hydroxide solution;
- (c) extracting the basic solution from step (b) with ethyl acetate;

- (d) drying the ethyl acetate solution from step (c) with sodium sulfate, filtering the drying agent and evaporating the filtrate under vacuo to give non-crystalline azithromycin as a syrup;
- (e) co-evaporating the material from step (d) with isopropanol three times to give a syrup;
- (f) mixing the material from step (e) with isopropanol;
- (g) adding water to the material from step (f);
- (h) filtering the insoluble material from step (g) and drying under vacuo;
- (i) dissolving the material from step (h) in isopropanol and adding water wherein the ratio of isopropanol to water is in the order of (1 – 2) : 1;
- (j) filtering the insoluble material from step (i).

8. A process for the preparation of the azithromycin • (H₂O)_x • [isopropanol]_y of claim 3 wherein x = 0.75 and y = 0.5 which comprises the following steps:

- (a) dissolving solid azithromycin in an acetic acid solution and extracting the solution with ethyl acetate;
- (b) basifying the aqueous solution from step (a) with a sodium hydroxide solution;
- (c) extracting the basic solution from step (b) with ethyl acetate;
- (d) drying the ethyl acetate solution from step (c) with sodium sulfate, filtering the drying agent and evaporating the filtrate under vacuo to give non-crystalline azithromycin as a syrup;
- (e) co-evaporating the material from step (d) with isopropanol three times to give a syrup;
- (f) mixing the material from step (e) with isopropanol;
- (g) adding water to the material from step (f);

- (h) filtering the insoluble material from step (g) and drying under vacuo;
- (i) dissolving the material from step (h) in isopropanol and adding water wherein the ratio of isopropanol to water is in the order of 4 : 1;
- (j) filtering the insoluble material from step (i).

9. A process for the preparation of the azithromycin • (H₂O)_x • [isopropanol]_y of claim 4 wherein x = 0.75 and y = 0.5 which comprises the following steps:

- (a) dissolving solid azithromycin in an acetic acid solution and extracting the solution with ethyl acetate;
- (b) basifying the aqueous solution from step (a) with a sodium hydroxide solution;
- (c) extracting the basic solution from step (b) with ethyl acetate;
- (d) drying the ethyl acetate solution from step (c) with sodium sulfate, filtering the drying agent and evaporating the filtrate under vacuo to give non-crystalline azithromycin as a syrup;
- (e) co-evaporating the material from step (d) with isopropanol three times to give a syrup;
- (f) mixing the material from step (e) with isopropanol;
- (g) adding water to the material from step (f);
- (h) filtering the insoluble material from step (g) and drying under vacuo;
- (i) dissolving the material from step (h) in isopropanol and adding water wherein the ratio of isopropanol to water is in the order of 4 : 1;
- (j) filtering the insoluble material from step (i).

10. A process for the preparation of the azithromycin • (H₂O)_x • [isopropanol]_y of claim 5 wherein x = 1.5 and y = 0.25 which comprises the following steps:

- (a) dissolving solid azithromycin in an acetic acid solution and extracting the solution with ethyl acetate;
- (b) basifying the aqueous solution from step (a) with a sodium hydroxide solution;
- (c) extracting the basic solution from step (b) with ethyl acetate;
- (d) drying the ethyl acetate solution from step (c) with sodium sulfate, filtering the drying agent and evaporating the filtrate under vacuo to give non-crystalline azithromycin as a syrup;
- (e) co-evaporating the material from step (d) with isopropanol three times to give a syrup;
- (f) mixing the material from step (e) with isopropanol;
- (g) adding water to the material from step (f);
- (h) filtering the insoluble material from step (g) and drying under vacuo;
- (i) dissolving the material from step (h) in isopropanol and adding water wherein the ratio of isopropanol to water is in the order of (1 - 2) : 1;
- (j) filtering the insoluble material from step (i).

11. A crystalline form of azithromycin • (H₂O)_x • [isopropanol]_y wherein x = 0.75 and y = 0.5 or x = 1.5 and y = 0.25 made by the process of claim 6, 8 or 9 if x = 0.75 and y = 0.5 and by the process of claim 6, 7 or 10 if x = 1.5 and y = 0.25.

12. A crystalline form azithromycin isopropanolate of claim 1 wherein x = 1.5 and y = 0.25 made by the process of claim 6, 7 or 10.

13. A crystalline form of azithromycin isopropanolate of claim 1 wherein $x = 0.75$ and $y = 0.5$ made by the process of claim 6, 8 or 9.
14. A crystalline form of azithromycin • $(H_2O)_{0.75}$ • [isopropanol]_{0.5} having the single crystal structure of Figure 1(a) made by the process of claim 9.
15. A crystalline form of azithromycin • $(H_2O)_{0.75}$ • [isopropanol]_{0.5} having the single crystal structure of Figure 1(b) made by the process of claim 10.
16. A crystalline form of azithromycin • $(H_2O)_{0.75}$ • [isopropanol]_{0.5} having the single crystal structure of Figure 1(a).
17. A crystalline form of azithromycin • $(H_2O)_{0.75}$ • [isopropanol]_{0.5} having the single crystal structure of Figure 1(b).